THE EVENING WORLDS

ALTERNATING CURRENT FOR FILAMENT AND PLATE.

a preceding article we discusse direct current (D. C.) for mt and plate operation. To-day will consider one of the ways of

Ing alternating current (A. C.) for a same purposes.

The method to be described has coved very satisfactory to the experiments, who have the necessary theoretical and practical knowledge of the creation of the circuits, but it is more an likely to give the layman contents as will give him satisfactory such administration of the circuits, but it is more an likely to give the layman contents as will give him satisfactory suits. For the benefit of those who is just cutting their "radio eye teeth" a sincerely suggest sticking to the two colls will back each other and no voltage will be obtained from that particular winding.

It might be advisable in order to content to the same manner as the first half.

Great care must be taken in winding the coils of the transformer in the same direction, so that if any two halves of one winding were removed from the core and placed end to end the winding would be continuous and not double back upon itself. If it appears to reverse its direction of winding, the two coils will back each other and no voltage will be obtained from that particular insulated from it in the same manner as the first half.

Great care must be taken in winding one winding were removed from the core and placed end to end the winding would be continuous and not double back upon itself. If it appears to reverse its direction of winding, the two coils will back each other and no voltage will be obtained from the core and insulated from it in the same manner as the first half.

Great care must be taken in winding the coils of the transformer in the same manner as the first half. The method to be described has

By Capt. Robt. Scofield Wood. which is on top of the primary winding.

(D. F. C., M. C., Croix de Guerre with turns of No. \$2 D. C. C. wire.

NOTE: CORE & LONG X 4" WIDE X 1" DEEP TO BE MADE OF ZAMINATIONS I" WIDE

FEATURES OF THE HOOK-UP FOR USING 110 VOLT A. C. ON PLATE AND FILAMENT.

it has the advantage of being absolutely safe, and the possibilities of burning out the vacuum tubes and starting a fire are very remote. The application of house lighting current has many drawbacks aside from the fire hazard, which would prove fatal to the occurs. ch would prove fatal to the desires ambitions of the embryo fan. A lum experimenter is often tried to point of distraction in overcoming natural hum of aliernating current the line of unforeseen distribunces.

the line of unforeseen distribunces.

towever, for those who are prepared to

with 110-volt A. C., the following

To obtain the best results in the corning to satural hum of alternating current of tarning out numerous other things to the line of unforescen distribunces; the line of unforescen distribunces; the line of unforescen distribunces; to we with 110-voil A. C., the following to published:

By experiment the amateur will reasy the idea as to the correct advances and will be surprised by the new results obtained. The careful things of the accompanying diagram in insection with the following key and planation will be found to sive sufficient detail to construct and operate its circuit.

KEY TO DIAGRAM.

2'—Friament lighting resistance 4 to thing, one and one-half amperes arrying capacity.

2'—Friament lighting resistance 4 to thing, one and one-half amperes arrying capacity.

2'—Friament lighting resistance 4 to the coil simulated the line hum from the becycle current.

3'—Foundameter of 4,000 chms. The owner of the core of the core of the core of the single of the core. There out of the way while the winding is in progress. Now wind the coil on the form and after it is completed the ends of the threads can be unfastered from the form and after it is completed the ends of the threads can be unfastered from the form and after it is completed the ends of the threads can be unfastered from the form and after it is completed the ends of the threads can be unfastered from the form and after it is completed the ends of the threads can be unfastered from the form and after it is completed the ends of the threads can be unfastered from the form and after it is completed the ends of the threads can be unfastered from the form and after it is completed the ends of the way while the windings in progress. Now wind the coil on the form and after it is completed the ends of the way while the winding of the core. There is a layer of the leaf the primary winding.

3' turns, number 22 D, C. C. wound on the core of the line. The experimenter would be caused the results of the line and even if he did, there would be caused to the latter

also 160 turns wound upon the second half of the primary and insulated from

S'-One-half of the filament lighting accondary, consisting of 12 turns of No. 18 double cotton covered wire wound upon the core with two or three layers of shellacked paper between the core and this winding.

S.—The second halft of the filament lighting accordance would prove the core.

struct a transformer that will have esadvantage of being absolutely
the possibilities of burning
acuum tubes and starting a
ry remote. The application
lighting current has many
aside from the fire hazard,
id prove fatal to the desires
ions of the embryo fan. A
than any other combination in the

To obtain the best results in the con-

d upon the insulation, ruble centimeter jars filled with a Atkinson Knight Co., 70 Warren st., N. 1

tubes which are to be sold in wholesale lots of 10,000 at the Washington Navy Yard on Monday, May 15. These tubes were originally designed for transmitting and fit ordinary commercial transmitting socket. However, they may be used for detecting and amplifying by resioting the receiving tube ocket about 45 degrees from the usual slot. This is essential because the retaining pin in the base of them is about 45 degrees from the position of the retaining pin of present day receiving tubes.

These tubes will be sold in the retain

These tubes will be sold in the retail These tubes will be sold in the retail market in their original cartons marked for amateurs for experimental use only. This limiting clause need not bother any of the folks who buy them for entertainment purposes, because experimental uses embrace this phase of operation.

mental uses embrace into phase of operation.

The fact that these tubes are several years old must be clearly shown on the label. To ourb the exploiting of these tubes by unscrupulous sales organizations a failure to comply with the Naval regulations in the sales contract will result in the seisure of the tubes by the authorities and the ferfeit of all payments already made.

NEW BROADCASTING LICENSES.

Twenty-three new broadcasting stations have been licensed this week by
the Department of Commerce, bringing
the grand total up to 235.

WBAY—American Telephone and
Telegraph Company, New York, N. Y.
WBAV—The Erner & Hopkins Company, Columbus, O.

WGM—Georgia Railway and Power
Company, Atlanta, Ga. (Atlanta Constitution.)

stitution.)

WBAQ—Myron L. Harmon, Y. M. C.
A. South Bend, Ind.

WGI—lowa State College, Ames, Ia.

WBAW—Marietta College, Marietta, O.

WBAU—Republican Publishing Company, Hamilton, O.

KNI—T. W. Smith, Eureka, Cal.

WHAX—John H. Stenger Jr., Wilkes-Barre, Pa.

Barre, Pa. WCX-Detroit Free Press, Detroit.

WCAE-Kaufmann & Baer Company. WCAB-RAUIman & Beer Company,
Pittsburgh, Pa.
WCAB-Newburgh News Print &
Publishing Company, Newburgh, N. Y.
WBAZ-Times-Despatch Publishing
Company, Richmond, Va.
KIX-Tribune Publishing Company,
Oakland, Cal.
KOJ-University of Nevada, Reno,

Nevada.

KZV—Wenatchee Battery and Motor
Company, Wenatchee, Wash.

WBAP—The Star-Tolegram, Wortham-Carter Publishing Company, Fort
Worth, Tex.

KYI—Bakersfield Californian, Bakersneld, Cal.

KYI—Bakersfield Californian, Bakersfield, Cal.

WCAG—Dafly States Publishing Company, New Orleans, La.

KNX—Electric Lighting Supply Company, Los Angosies, Cal.

WCAC—John Fink Jewelry Company, Fort Smith, Ark.

WCAD—St. Lawrence University, Canton, N. Y. (Only weather), KQI—University of California, Berkeley, Cal.

W J Z (Newark) 360 Metres

Features for the day: Agricultural reports at 19 M. and M. M. Arlington official time at 12.55 P. M. to 1 P. M.; 16.55 P. M. to 11 P. M.
Baseball scores at 8, 4, 5, 6, 7 and

Music every hour from 11 A. M. to 6 P. M. for 15 minutes after the hour. JONES RADIO SETS

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Weather reports at 11 A. M., 1 P. M.
P. M. and 11.61 P. M.
7 P. M.—"Man in the Moon" stories

7 P. M.—"Man in the Moon" stories.
7.80 P. M.—"Do You Use Labor Savers?" by Miss Mildred Maddocks.
8 P. M.—Cencert by Philiarmonic Society of the Oranges, R. Bergmann, conductor; E. Berthold, concert master.
Programme: "La Reine de Saba, marche et cortege (Gounod); "Beauty's Eyes," cornet solo (Tosti); 'U. S. Field Artillery March," (Sousa); "Titus Overture" (Mozart), "Melody of Peace" (Carroll-Martin), "The Girl Who Smiles" (Jean Briquet), "Lights Out March" (McCoy), Cornet solos by Harry Stalter. Stalter.

9 P. M.—Concert by the Dorlan Quar-

9 P. M.—Concert by the Dorian Quartet: Hazel Drury. first soprano; Elvera Cedargreen, second soprano; Ruth Pearcy, first allo; Luiz Root, second alto; accompanist, John Weinman, baritone. Programme: "Carmena." Wilson: "Malinda," Von Tilzer; "April Showera," Silvera; "Songs My Mother Used to Sing;" 'The Sextette From Lucia di Lammermoor, "Donisatti, by the quartet: "One Fleeting Hour." Lee; "Wake Up" (Phillips), Miss Cedargreen; "Barcarole," from "Tales of Hoffman" (Offenbach), Miss Drury and Miss Root: "Amour Viens Alder," from Samison et Dellia (Saint-Saens), Miss Pearcy; "Pale Moon." Logan; "Tommy Lad" (Margetson), Mr. Weinman; "Jewel Song" from Faust (Gounod), Miss Drury; "All Thru the Night," old Welsh alr; Charile Is My Darling," (Scotch), Miss Root.

W G I (Medofrd Hillside, Mass.), 360 Metres.

7.30—Bedtime story. "The Happiness Key" (Pease, Youth's Companion), read by Miss Eunice L. Randall.
8.00—"Cancer" (by request), Personal Hygiene Talk No. 17, by B. A. Wolcome, Executive Secretary, Junior Department, American Red Cross.
8.15—Elizabeth Stratton, mezzo-so-prano; Franklyn G. McManus, basso

cantanta; Donald White, accompanist.

8.45—Crittenden's Quartet, Everett Crittenden, violin; George Donaldson, a report of the New York Stock Exdrums; Edward Yanes, saxaphone; Harold E. Gordon, plano.

by Otls Skinner and Katherine Calvert.

7.45—Government market reports and drums; Edward Yanes, saxaphone; Harold E. Gordon, plano.

rittenden, violin; George Donaldson, frums: Edward Yanes, saxaphone; Hardid E. Gordon, plane.

K D K A (Pittsburgh)

340 Metres.

3.30 P. M., and at 15 minute intervals thereafter—Baseball scores.

7 P. M.—Baseball scores.

Weekly talk on dress. Entertainment

A report of the New York Stock Large change.

S—Baseball scores. "Our Government and its Neighbors." by Dr. Louis K. Manley of the University of Pittsburgh.

3.50—"Bunniken Bunnies and the Moon King, Part 1." a bedtime story for the children.

3—Music. Programme by Ethel Herr Littchfield, painist; Anna Laura Cree, soprano; Leo Kruzcek, violinist.

10—Baseball scores.

10.55—Arlington time signals.

Mary had a little lamb With fleece down to its But they bobbed its hair to make a puff To powder Mary's nose.

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in selecting your furni

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